

REMARKS

Claims 1-23 are pending in this application, of which claims 1-2, 9 and 16 have been amended. No new claims have been added.

The Examiner has maintained from the previous Office Action the 35 U.S.C. §102(b) rejection of claims 1, 8-9 and 16 as anticipated by **Kamoi et al.**

Applicants respectfully traverse this rejection.

On page 5 of the Office Action, the Examiner states:

Kamoi discloses the control circuit (including elements a V1a detection circuit, an I1a detection circuit, a W1a detection circuit, and a drive circuit) to control on/off state of the switching element (having a switching element connected between the diode [D11] and the inductor [L2] for stating on/off the power supplied to the lamp [La]) so that at least one of an effective value and a peak value (figures 16d to 20d clearly show the effective/prescribed value of the lamp voltage increased during the timing II in each period and adjusted the effective value to a constant value to stabilize the lighting voltage/current/power lamp) of the lap power provided for the lamp is increased more than that adjusted by constant lamp power control, the constant lamp power control being control for adjusting the effective value of the lamp power provided for the lamp to a prescribed power value (a lighting value) (see figures 14-20).

Applicants respectfully disagree. FIGS. 16(d)-20(d) show an increasing lamp voltage for time period II and then a constant voltage for time period III. This is in contrast to the present invention in which FIGS. 4-6 are graphs of power v. time, not voltage v. time, as in **Kamoi et al.** FIGS. 2-3 of the present invention clearly show that lamp voltage and power do not vary in the same way at lamp startup.

More specifically, the device of **Kamoi et al.** operates by lamp current control for time period II, as shown in FIGS. 16 or 20 where a constant lamp current I1a is provided thereby lamp voltage V1a is increased. In FIG. 20, the lamp turns off as a result of flame failure, but the device operates by lamp current control after starting the lamp by high voltage control again (which is not high power control).

After the time period τ , the device operates by constant power control, wherein each of the lamp voltage V_{la} and lamp current I_{la} is constant. In the device, the lamp current I_{la} in the lamp current control is increased more than that in the constant power control and, accordingly, startability of the lamp is improved (column 3, line 23).

The invention of claim 1 controls the on/off state of the switching element in the power converter based on high power control after lamp current control in order to prevent flicker generation ([0010]).

That is, the control for the time period τ in the device of Kamoi et al. corresponds to the lamp current control of the invention, and the control after the time period τ corresponds to the constant power control of the invention. Moreover, Kamoi et al. fails to disclose the high power control for preventing flicker generation.

Therefore, the invention of claim 1 is not described in Kamoi et al. Moreover, a person with ordinary skill in the art of the invention would not have been able to easily make the invention based on the device of Kamoi et al., which has different object and controls from the invention and fails to disclose the high power control for preventing flicker generation.

With respect to claim 8, the Examiner has urged that Kamoi et al. discloses that the control circuit controls the on/off state of the switching element based on the high power control for a prescribed time period [I, II, or τ] immediately after reaching a stable state of the lamp (Figure 16 shows the stable state of the lamp after the second time period [II]).

Applicants respectfully disagree. In FIG. 16 of Kamoi et al., the start time point of a stable state is the end time point of time period τ . After reaching a stable state, the device of Kamoi et al. performs only constant power control. Before the time period τ , a lamp current is zero and accordingly the lamp is still off.

With respect to claim 9, the Examiner has urged that Kamoi et al. discloses that wherein after reaching a stable state (at the third time period shown in FIGS. 16 and 19) of the lamp, control for on/off state of the switching element based on the constant lamp power control and control for the on/off state of the switching element based on the high power control are performed alternately and periodically through the control circuit (FIGS. 16[d] to 20 show a high resonance voltage performing alternately and periodically in time periods).

Applicants respectfully disagree. The time period before τ is a period of time in which the lamp is in no-load (no lamp current) state and high voltage control is performed. That is, in the time period before τ , lamp current control, constant power control and high power control cannot be performed.

In time period τ , lamp current control is performed. In the time period after τ , constant power control is performed.

Therefore, in the device of Kamoi et al., constant power control and high power control are not performed alternately.

With respect to claim 16, the Examiner has urged that Kamoi et al. discloses that the control circuit executes correction control (column 13, lines 58-64).

Applicants respectfully disagree.

Column 13, lines 58-64 of Kamoi et al. states:

In the forgoing embodiments, switching between the starting and lighting modes is not specified, but the lit state of the discharge lamp can be detected by the lamp current or voltage detecting means to perform the mode switching, or the starting operation can be continued for a predetermined time interval after turning ON the power and then be switched to perform the lighting operation.

That is, the lighted state of the discharge lamp is detected with the lamp current or voltage detecting means, and thereby the lighting operation can be performed. This means that the lighted state of the discharge lamp is detected with the lamp current or voltage detecting means and then the starting operation is changed to the lighting operation.

With reference to "the starting operation can be continued for a predetermined time interval after turning ON the power and then be switched to perform the lighting operation," time is employed instead of the lamp current or voltage detecting means. that is, after the predetermined time, the starting operation is changed to the lighting operation.

Thus, the 35 U.S.C. §102(b) rejection should be withdrawn.

The Examiner has also maintained from the previous Office Action the 35 U.S.C. §103(a) rejection of claims 22-23 as unpatentable over Kamoi et al. in view of Takahara (previously applied).

Applicants respectfully traverse this rejection.

Takahara, like Kamoi et al., fails to disclose the features of claim 1, as amended, from which these claims depend.

Thus, the 35 U.S.C. §103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-23, as amended, are in condition for allowance, which action, at an early date, is respectfully solicited.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105.

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